

## **REMARKS**

### **Claims**

Claims 125, 126, 128, 131-138, and 142 are currently pending and under consideration. Applicants have amended claims 125 and 126 and added new claims 143-160 to clarify the presently claimed invention.

In particular, independent claim 125 has been amended to delete the limitation “elicits nicotine-specific antibodies in a human.” Claim 125 has also been amended to include the limitation that the nicotine derivative is *not* cotinine. Support for this limitation can be found in the specification as filed, for example, at page 16, lines 8-10; page 38, lines 16-17; and Figure 19<sup>1</sup>, which identify cotinine and other metabolites of nicotine as useful in the preparation of the conjugates. Such an amendment is permitted because “[i]f alternative elements are positively recited in the specification, they may be explicitly excluded in the claims” (M.P.E.P. § 2173.05(i), 8<sup>th</sup> Ed., Revision 7, July 2008). Claim 125 has also been amended to claim in the alternative, the chemical branches, which link the hapten to the carrier; and the group Q, which make up some of the branches, thereby eliminating the need for Markush language (*see* M.P.E.P. § 2173.05(h), 8<sup>th</sup> Ed., Revision 7, July 2008).

Claim 126 has been amended; and new dependent claims 148, 152, 156, and 160 have been added to recite the pharmaceutical composition, “wherein n is an integer preferably selected from about 3 to about 20.” Support for this amendment can be found in the specification as filed, for example, at page 36, lines 13-14.

New independent claims 145, 149, 153, and 157 have been added to recite the same pharmaceutical composition of amended claim 125, except limited to wherein the branch comprises CJ 11, CJ 3, CJ 7, and CJ 7.1, respectively.

New dependent claims 143, 146, 150, 154, and 158 have been added to recite the composition, “wherein n is 1.” Support for a pharmaceutical composition, “wherein n is 1,” can be found in the specification as filed, for example, at page 36, lines 13-14; Figure 3B(1) (*e.g.*, conjugates PS-2, PS-3, PS-4, PS-6, PS-9, PS-10, PS-11, and PS-12; Figure 3B(2) (*e.g.*, conjugates PS-13, PS-14, PS-15, PS-16, PS-17, PS-18, PS-19, and PS-20); Figure 3B(3) (*e.g.*, conjugates PS-28, PS-29, PS-30, and PS-31); Figure 3B(4) (*e.g.*, conjugates PS-32, PS-33, PS-34, PS-35, PS-36, PS-37, PS-38, and PS-39); Figure 3B(5) (*e.g.*, conjugates PS-40, PS-41,

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<sup>1</sup> Applicants submit that the sub-heading for the structure of cotinine in Figure 19 was inadvertently misspelled in the originally filed specification as “COTINE” [sic] instead of “COTININE.”

PS-42, PS-43, and PS-44); Figure 3B(6) (*e.g.*, conjugates PS-45, PS-46, PS-47, PS-48, PS-49, and PS-50); and Figure 4.

New dependent claims 144, 147, 151, 155, and 159 have been added to recite the composition, “wherein n is 2.” Support for a pharmaceutical composition, “wherein n is 2,” can be found in the specification as filed, for example, at page 36, lines 13-14; Figure 3B(1) (*e.g.*, conjugate PS-5); and Figure 18A (*e.g.*, conjugate PS-54).

No new matter has been added by these amendments. Upon entry of the present amendments, claims 125, 126, 128, 131-138, and 142-145 will be pending in the present application.

### **Priority**

The Examiner alleges a failure to comply with one or more conditions for receiving a the benefit of an earlier filing date under 35 U.S.C. § 120. According to the Examiner, the disclosures of prior-filed applications, U.S. Application Nos. 08/414,971 (“’971 application”), filed March 31, 1995, and 08/563,673 (“’673 application”), now U.S. Patent No. 5,760,184 (“’184 patent”), filed November 28, 1995, fail to provide adequate support or enablement in the manner provided by 35 U.S.C. § 112 for one or more claims. In particular, the Examiner alleges that the ’971 application and ’673 application do not disclose nicotine derivatives. For the following reasons, Applicants submit that they are entitled to the priority benefit of the ’673 application, now the ’184 patent, for the pending claims.

As a preliminary matter, as discussed previously, the claims have been amended to include the limitation of “at least one hapten which is nicotine or a nicotine derivative, wherein the nicotine derivative is not cotinine.” Applicants submit that support for “at least one hapten which is nicotine or a nicotine derivative, wherein the nicotine derivative is not cotinine” can be found in the ’184 patent. The ’184 patent is replete with disclosure that the hapten of the present invention can be a drug or a drug derivative, and that the hapten-carrier conjugate, where the hapten is a drug or drug derivative elicits the production of antibodies specific to the drug, when administered to an individual (*see* ’184 patent, col. 6, lines 58-62; *see also* col. 7, lines 48-51). Moreover, the ’184 patent discloses that particular linkers may be employed to conjugate proteins/peptides to derivatized molecules, *e.g.*, haptens (*see* ’184 patent, col. 18, lines 51-54).

According to the Examiner, the priority date for branch CJ 11 is September 30, 1996. Applicants submit that the priority date for the pending claims, including the claim limitation of nicotine derivatives and for branch CJ 11, is November 28, 1995. Applicants submit that

the '184 patent fully supports branch CJ 11 as cited in the currently pending claims. The '184 patent explicitly discloses that Q can be "another 'branch' identified by its 'CJ' reference number" (col. 14, lines 44-45). Furthermore, the '184 patent explicitly discloses that "n is an integer" (col. 14, line 22). Thus, branch CJ 11 [YCO(CH<sub>2</sub>)<sub>n</sub>COQ] is encompassed by branch CJ 7 [Y(CH<sub>2</sub>)<sub>n</sub>Q], where n is 0, and Q is another branch represented by branch CJ 3 [CO(CH<sub>2</sub>)<sub>n</sub>COQ] (*see* '184 patent, col. 14, lines 23-25 and 44-45). Accordingly, Applicants respectfully submit that the '184 patent fully supports branch CJ 11. *See* M.P.E.P. 2163(B) ("While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure").

Because the '184 patent fully supports "at least one hapten which is nicotine or a nicotine derivative, wherein the nicotine derivative is not cotinine" and branch CJ 11, Applicants submit that claims 125, 126, 128, 131-138, and 142 are supported by the '673 application and are entitled to the November 28, 1995 filing date.

#### **Information Disclosure Statement**

The Examiner alleges that the Information Disclosure Statement (IDS) filed January 26, 2009 fails to comply with 37 C.F.R. § 1.98(a)(2), which requires a legible copy of each cited foreign patent document. Applicants acknowledge, with appreciation, Examiner's pointing out of Applicants' inadvertent omission. Accordingly, Applicants submit herewith, a new Supplemental IDS and a legible copy of each of the cited references C88 and C89, along with references C124-C129.

#### **Claim Rejections**

##### **I. The New Matter Rejections Under 35 U.S.C. § 112, First Paragraph Should Be Withdrawn**

The Examiner has rejected claims 125, 126, 128, 131-138, and 142 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. In particular, the Examiner alleges that the specification does not provide support for the Markush group Q (claim 125) and therefore considers the Markush group Q to be new matter. The Examiner also alleges that the specification does not provide support for a pharmaceutical composition comprising a hapten which is nicotine or nicotine derivative, a carrier which is pseudomonas exotoxin, and linkers represented by the various formulas of the CJ reference numbers "which elicit nicotine-specific antibodies in a human."

As discussed previously and without admitting to the propriety of the rejection, the claims have been amended to delete the limitation “which elicit nicotine specific antibodies in a human.” Accordingly, the new matter rejection as to that limitation is rendered moot.

As discussed previously and without admitting to the propriety of the rejection, Applicants have amended claim 125 to recite group Q in the alternative, eliminating the need for Markush language. Applicants submit that the support for group Q can be found in the originally filed specification at page 36, lines 15-34 and original claims 1 and 25. Thus, Applicants submit that group Q does not constitute new matter.

Applicants also submit that branch CJ 11.1 does not constitute new matter. Branch CJ 11.1  $[\text{CH}_2\text{YCO}(\text{CH}_2)_n\text{COQ}]$  is disclosed as branch CJ 7.1  $[\text{CH}_2\text{Y}(\text{CH}_2)_n\text{Q}]$ , where  $n$  is 0; and Q is another branch represented by branch CJ 3  $[\text{CO}(\text{CH}_2)_n\text{COQ}]$ . Support for branch CJ 11.1 can be found in the '184 patent, for example, at col. 14, lines 22-25 and 44-45; and in the specification as originally filed, for example, on page 36, lines 12-15 and 33-34. In addition, the specification and the '184 patent both state that “[t]he length of the linker is optimized by varying the number of  $-\text{CH}_2-$  groups which are strategically placed within a “branch” (see specification, page 34, lines 32-35 and '184 patent, col. 13, lines 64-67). Thus, the specification discloses the addition or subtraction of  $\text{CH}_2$  groups within the listed branches identified by their CJ reference numbers at various strategic locations. Applicants submit that the addition of a  $\text{CH}_2$  group to branch CJ 11 at its Y group yields branch CJ 11.1. Accordingly, branch CJ 11.1 does not constitute new matter.

For the foregoing reasons, Applicants respectfully request withdrawal of the new matter rejection of claims 125, 126, 128, 131-138, and 142 under 35 U.S.C. § 112, first paragraph.

**II. The Written Description Rejection Under 35 U.S.C. § 112, First Paragraph Should Be Withdrawn**

Claims 125, 126, 128, 131-138, and 142 are rejected under 35 U.S.C. § 112, first paragraph as allegedly failing to comply with the written description requirement. In particular, the Examiner alleges that there is no written description support for the claimed “nicotine derivatives” or the pharmaceutical composition that will “elicit nicotine-specific antibodies in a human.”

As discussed previously and without admitting to the propriety of the rejection, the claims have been amended to include the limitation that the nicotine derivative is *not* cotinine

and to delete the limitation “elicits nicotine-specific antibodies in a human.” Applicants submit that the written description rejection is obviated in view of the claim amendments.

For the foregoing reasons, Applicants respectfully request withdrawal of the written description rejection of claims 125, 126, 128, 131-138, and 142 under 35 U.S.C. § 112, first paragraph.

**III. The Enablement Rejection Under 35 U.S.C. § 112, First Paragraph Should Be Withdrawn**

Claims 125, 126, 128, 131-138, and 142 are rejected under 35 U.S.C. §, first paragraph, because the specification, while being enabled for a “haptent-carrier conjugate,” does not reasonably provide enablement for “a pharmaceutical composition which elicits nicotine-specific antibodies in a human.” According to the Examiner, the specification does not enable a person skilled in the art to make and use the invention commensurate in scope with the claims.

As discussed previously and without admitting to the propriety of the rejection, the claims have been amended to delete the limitation “elicits nicotine-specific antibodies in a human.” Applicants submit that the enablement rejection is obviated in view of the claim amendments.

For the foregoing reasons, Applicants respectfully request withdrawal of the enablement rejection of claims 125, 126, 128, 131-138, and 142 under 35 U.S.C. § 112, first paragraph.

**IV. The Indefiniteness Rejection Under 35 U.S.C. § 112, Second Paragraph Should Be Withdrawn**

Claims 125, 126, 128, 131-138, and 142 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Specifically, the Examiner states that nicotine derivatives are not defined by the present specification.

As discussed previously and without admitting to the propriety of the rejection, the claims have been amended to include the limitation that the nicotine derivative is *not* cotinine. Applicants submit that the indefiniteness rejection is obviated in view of the claim amendments.

For the foregoing reasons, Applicants respectfully request withdrawal of the indefiniteness rejection of claims 125, 126, 128, 131-138, and 142 under 35 U.S.C. § 112, second paragraph.

V. **Double Patenting**

**The Double Patenting Rejection Of Claims 125, 126, 128, 131-138, and 142 Over Claims 1-18 of U.S. Patent No. 5,876,727, alone or in combination with U.S. Patent No. 5,601,831 Should Be Withdrawn**

Claims 125, 126, 128, 131-138, and 142 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 5,876,727 (the “’727 patent”), alone or in combination, with U.S. Patent No. 5,601,831 to Green (“Green”). For the following reasons, Applicants submit that the obviousness-type double patenting rejection should be withdrawn.

In rejecting the claims of the present invention, the Examiner cites claims 1-18 of the ’727 patent and claim 9 of Green (*see* Office Action, page 18, 4<sup>th</sup> paragraph and page 19, 1<sup>st</sup> paragraph). However, the Examiner also cites to “Figure 17b and 18” and “Column 13, lines 45-59” of the ’727 patent (*see* Office Action, page 18, 5<sup>th</sup> paragraph and page 19, 1<sup>st</sup> paragraph) and the “*entire specification* particularly the abstract; columns 2, 10-12” of Green (*see* Office Action, page 19, 1<sup>st</sup> paragraph (emphasis added)). However, an obviousness-type double patenting rejection must be based on a comparison of the claims of an application against the claims of another patent or application (*see* M.P.E.P. (“[a] nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting *claims* are not identical, but at least one examined application *claim* is not patentably distinct from the reference *claim(s)* because the examined application *claim* is either anticipated by, or would have been obvious over, the reference *claim(s)*” (M.P.E.P. § 804, 8<sup>th</sup> Ed., Revision 7, July 2008) (emphasis added)). Furthermore, the M.P.E.P. states that “[w]hen considering whether the invention defined in a claim of an application would have been an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may *not* be used as prior art” (citing *General Foods Corp. v. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 1279, 23 U.S.P.Q.2d 1839, 1846 (Fed. Cir. 1992)). Because the Examiner cites to figures and portions in the specification, *i.e.*, the disclosure, of the ’727 patent and Green in the rejection, Applicants respectfully submit that the obviousness-type double patenting rejection is not appropriate.

For the foregoing reasons, Applicants respectfully request withdrawal of the obviousness-type double patenting rejection of claims 125, 126, 128, 131-138, and 142 over claims 1-18 of the “’727 patent, alone or in combination, with Green.

**The Provisional Double Patenting Rejection Of Claims 125, 126, 128, 131-138, and 142 Over Claims 88, 90, 103, 106, 108, 109, and 128-135 Of Copending U.S. Patent Application No. 11/472,215 Should Be Withdrawn**

Claims 125, 126, 128, 131-138, and 142 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 88, 90, 103, 106, 108, 109, and 128-135 of copending U.S. Patent Application No. 11/472,215. During our April 30, 2009 telephonic interview, the Examiner indicated that since Application No. 11/472,215 is still pending, upon a finding of allowable subject matter, this application will be allowed to issue.

**The Provisional Double Patenting Rejection Of Claims 125, 126, 128, 131-138, and 142 Over Claims 119-135 Of Copending U.S. Patent Application No. 11/472,220 Should Be Withdrawn**

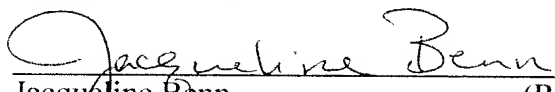
Claims 125, 126, 128, 131-138, and 142 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 119-135 of copending U.S. Patent Application No. 11/472,220. During our April 30, 2009 telephonic interview, the Examiner indicated that since Application No. 11/472,220 is still pending, upon a finding of allowable subject matter, this application will be allowed to issue.

**CONCLUSION**

Applicants respectfully request that the Examiner consider the amendments and the remarks made herein, and that the Examiner enter them into the record for the present application. Withdrawal of all rejections and an allowance is earnestly sought. The Examiner is invited to contact the undersigned attorney if a telephone call could help resolve any remaining items.

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Respectfully submitted,

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